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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,907	11/13/2001	Takeshi Mitsuishi	8071.0007	6647

7590 04/05/2005

Finnegan, Henderson, Farabow,  
Garrett & Dunner, L.L.P.  
1300 I Street, N.W.  
Washington, DC 20005-3315

EXAMINER
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PRITCHETT, JOSHUA L

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

### Office Action Summary

Application No.

09/986,907

[illegible]

MITSUISHI ET AL.

**Examiner**

Joshua L. Pritchett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,4 and 6-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-8,9-17/6 and 9-17/8 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,9-17/1 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This action is in response to Request for Continued Examination and Amendment filed February 7, 2005. Claims 1, 3, 4, 6 and 9 have been amended, claims 2 and 5 have been cancelled and claims 18-20 have been added as requested by the applicant.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Belleville (US 6,387,517).

Regarding claim 1, Belleville teaches a composition comprising niobium oxide, zirconium oxide, yttrium oxide and aluminum oxide (col. 7 lines 4-15).

Regarding claims 3 and 4, Belleville teaches a composition comprising 60-90% by weight niobium oxide, 5-20% by weight zirconium oxide (col. 7 lines 13-14). Belleville teaches that any of these oxides may be present in amounts ranging from 1-99% by weight. Therefore

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the amount of any one specific oxide and the presence of any of the other oxides in the compound would be anticipated by Belleville.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-14/1, 9-14/3 and 9-14/4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belleville in view of Rahilly (US 4,116,717).

Regarding claims 9, 13, 14 and 18, Belleville teaches the use of vaporization of the compound (col. 1 lines 54-56) and deposition of the vapor onto the substrate (col. 1 line 51-53). Belleville teaches an alternating layer fashion (Fig. 4) and at least one layer of silicon dioxide (col. 16 lines 1-3). Belleville lacks reference to the use of sintering of the compound prior to vaporization. Rahilly teaches the use of sintering an antireflective compound prior to applying the compound to a substrate (col. 3 lines 23-28). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use sintering as taught by Rahilly to form a solid mass of the compound prior to vaporizing the compound and depositing the compound on the substrate as taught by Belleville for the purpose of having a more uniform composition throughout the layer on the substrate and therefore obtaining more reliable results.

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Regarding claim 10, Belleville teaches the substrate being made of plastic (col. 9 lines 16-17).

Regarding claim 11, Belleville teaches the plastic substrate having one or more coating layers (Fig. 4).

Regarding claim 12, Belleville teaches an ion-assisted process (col. 1 lines 56-57).

Claims 15-17/1, 15-17/3, 15-17/4, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belleville in view of Rahilly as applied to claims 9/1, 12/1 and 18 above, and further in view of Asai (US 5,116,644).

Regarding claims 15, 16 and 19, Belleville in combination with Rahilly teaches the invention as claimed but lacks reference to the use of a hard coat layer. Asai teaches the use of a hard coat layer (col. 1 lines 33-34). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the Asai hard coat layer in the Belleville invention for the purpose of giving the antireflective element greater durability.

Regarding claims 17 and 20, Belleville teaches the optical element being a lens for spectacles (col. 13 line 36).

***Allowable Subject Matter***

Claims 6-8, 9-17/6 and 9-17/8 are allowed.

Regarding claim 6, claim 6 is allowable over the prior art of record because the prior art fails to teach or suggest the claimed weight percent of each oxide in the composition. Belleville is sufficient to teach the weight percent of any single oxide from 1-99%, but is not sufficient to teach the claimed weight percent composition involving the three separate oxides.

Regarding claims 7-8, 9-17/6 and 9-17/8 depend either directly or indirectly from claim 6 and are therefore allowable for the same reasons as claim 6.

### ***Response to Arguments***

Applicant's arguments filed February 7, 2005 have been fully considered but they are not persuasive.

On page 6 of Amendment applicant argues that the Belleville reference does not teach the claimed weight percentages of niobium and zirconium oxide as recited in claims 3 and 4. The applicant states, "the broad suggestion of using any oxide in an amount of from 1 to 99% does not begin to suggest what might be appropriate for any particular oxide." As stated above, the teaching of Belleville that any of the recited oxides may be present in the amount of 1-99% is sufficient to teach that any single oxide may be present in that amount. The claim limitations include a range that is within the range recited by the Belleville reference, therefore absent any evidence of unexpected results the Belleville reference anticipates the weight percentages of claims 3 and 4.

On pages 7 and 8 of Amendment, applicant argues that Belleville and Rahilly are not combinable because they teach different methods of deposition and that the fact that both Rahilly

and Belleville teach the use of a tantalum oxide composition as the material to deposit does not overcome this discrepancy. The examiner holds that because the two references teach the use of the same base oxide in the deposition process, namely tantalum oxide, one of ordinary skill in the art would recognize that the references are combinable. The applicant argues that there is no motivation to combine the two references. The examiner provided the motivation for combining the two references in the Office Action dated March 24, 2003 as being to provide a more uniform composition throughout the layer and therefore obtain more precise results from the use of the composition. One of ordinary skill in the art would recognize a predictability of success because both methods of deposition are used on similar compounds. The applicant argues that Belleville teaches away from the use of sintering and deposition. Belleville acknowledges the existence of depositing an antireflective layer using vaporizing techniques (col. 1 lines 49-57). Belleville does teach a new form of deposition that Belleville considers superior; however Belleville also states that the vaporization methods provide excellent optical results (col. 1 lines 57-60). Belleville fails to specifically mention sintering and therefore the teachings of the Rahilly reference are required to teach that sintering can be used in combination with vaporization techniques. Applicant further argues, "bare assertions, absent any basis in the teaching of the prior art, are factually and legally insufficient to provide any motivation to combine these references." The motivation to combine two references does not have to come directly from the references themselves, but may also come from the knowledge of one of ordinary skill in the art. One of ordinary skill in the art would recognize the fact that sintering is a well known and commonly used means of depositing antireflection layers and would be motivated to combine the two references for the purpose of achieving equal dispersion of the materials in the compound

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throughout the layer in a well known manner that would provide reliable results. Furthermore Bellevill does acknowledge the excellent optical qualities of layers deposited by means similar to those taught in Rahilly.

Applicant's arguments, see Amendment, filed February 7, 2005, with respect to objection to claim 17 have been fully considered and are persuasive. The objection of claim 17 has been withdrawn. The applicant argues that there is no requirement for the applicant to rewrite the claim language in the form of a Markush group.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP

**DREW A. DUNN**  
**SUPERVISORY PATENT EXAMINER**